# An Innovative Simulated Annealing Approach To The Long-Term Hydroscheduling Problem

Mantawy, A.H. Soliman, S.A. El-Hawary, M.E.;King Fahd Univ. of Pet.Miner., Dhahran;

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King Fahd University of Petroleum & Minerals

**http://www.kfupm.edu.sa**

## Summary

This paper presents a new simulated annealing algorithm (SAA) to solve the long-term hydro scheduling problem (LTHSP). A new algorithm for randomly generating feasible trial solutions is introduced. The problem is a hard nonlinear optimization problem in continuous variables. An adaptive cooling schedule and a new method for variables discretization are implemented to enhance the speed and convergence of the original SAA. A significant reduction in the number of the objective function evaluations, and consequently less iterations are required to reach the optimal solution. The proposed algorithm has been applied successfully to solve a system with four series cascaded reservoirs. Numerical results show an improvement in the solutions compared to previously obtained results